Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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| In the Matter of | ) | |
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| Schools and Libraries Universal | ) | |
| Support Mechanism | ) | CC Docket No. 02-6 |
| | ) | |
| Connect America Fund | ) | WC Docket No. 10-90 |
| | ) | |
| Modernizing the E-rate Program for | ) | WC Docket No. 13-184 |
| Schools and Libraries | ) | |

# REPLY COMMENTS OF MICROSOFT CORPORATION

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SUMMARY

- Many students lack access to broadband connectivity in their own homes, which today is a critical educational technology need.
- The programs described in the petitions will enhance the efficiency of the E-rate program to provide in-home connectivity for thousands of students who need it.
- Eligible students' in-home connectivity will be provided at no additional cost to the E-rate fund. In addition, the petitions will increase the productivity of E-rate dollars by using existing resources more efficiently and amplifying their benefits. Denying the petitions would be tantamount to wasting existing resources.
- The programs described in the petitions can complement, rather than replace or discourage, other efforts to increase household broadband connectivity and adoption.
- The universal service structure established by Congress allows for these innovations. Different USF programs can, and do, overlap in a multi-pronged approach to avoiding gaps in the provision of service.
- The statute and the Commission's rules allow use of E-rate-supported services off school premises. The Commission has provided examples of off-premises uses of E-rate supported services that would satisfy the integral, immediate, and proximate educational use standard.
- The services that would be provided by the programs described in the petitions satisfy the integral, immediate, and proximate educational use requirements of the statute and the Commission's E-rate rules.
- The Commission should grant both the Virginia and Boulder Valley petitions.

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# REPLY COMMENTS OF MICROSOFT CORPORATION

The Commission is presented with the exciting opportunity to eliminate technological barriers and enable thousands of students to reach their full potential.[1] It can and should take the measures necessary to realize those benefits for students. Denying these petitions – and thus denying students the technological tools they need for a full and effective education – should be done only if these petitions are prohibited by laws and if there is no reasonably available interpretation that would permit

[1] *Wireline Competition Bureau Seeks Comment on Petitions Regarding Off-Campus Use of Existing E-rate Supported Connectivity*, CC Docket 02-6, WC Docket Nos. 10-90 and 13-184, Public Notice, DA 16-1051 (rel. Sep. 19, 2016) ("Public Notice"). The Public Notice seeks comment on two petitions: (1) the Joint Petition for Clarification or, in the Alternative, Waiver of Microsoft Corporation, Mid-Atlantic Broadband Communities Corporation, Charlotte County Public Schools, Halifax County Public Schools, GCR Company, and Kinex Telecom, WC Docket No. 13-184 (filed July 7, 2016) ("Virginia Petition") and (2) the Petition for Waiver of Samuelson-Glushko Technology Law & Policy Clinic on Behalf of Boulder Valley School District, WC Docket Nos. 13-184, 10-90 (filed May 16, 2016) ("Boulder Valley Petition").

extending the educational benefits to these students. Fortunately, these barriers are not present in the case of the two petitions before the Commission.

As explained in further detail herein, providing broadband access in schools addresses only half of the technological equation necessary for effective and modern education.[2] Many students lack access to the other half of the technological equation: broadband connectivity in their homes. The programs described in the petitions will enhance the efficiency of the E-rate program to provide that in-home connectivity for thousands of students. They will do so at no additional cost to the E-rate fund and, in fact, will increase the productivity of E-rate dollars by using existing resources more efficiently and amplifying their benefits. Furthermore, these programs can complement, rather than replace or discourage, other efforts to increase household broadband adoption. There are no legal obstacles to the grant of the petitions. The petitions satisfy the educational purpose requirements of the statute and the Commission's rules. In addition, the universal service structure established by Congress allows for these innovations and neither the statute nor the Commission's rules prohibit educational use of E-rate-supported services off school premises. Indeed, some off-premises uses of E-rate-supported services already are explicitly approved and taking place. The record

[2] *See* EveryoneOn Comments at 4 ("The educational mission of E-rate cannot be fulfilled if only applied within schools. Education continues outside of the school walls and beyond the school day.").

contains compelling public interest justifications and solid legal bases for granting both petitions. Microsoft strongly encourages the Commission to do so.

## I. Online Learning Outside School Is an Essential and Increasingly Important Component of a Student's Education.

Most commenters, including the educational experts (*e.g.*, schools and school districts), support the Virginia and Boulder Valley Petitions, emphasizing the importance of at-home learning as a critical part of a student's education. The Nebraska Department of Education and Office of the CIO explain:

> K-12 education resources are becoming increasingly digital and more and more web-based. Learning management systems, student information systems, and content management systems all require students, parents, teachers, and administrators to have constant and convenient access to the Internet at ample speeds to download, upload, view, and interact with content, learning activities, grades, formative assessments, and records. Never before in the history of education has it been more necessary for all students to have 24/7 access using an Internet-connected computer or tablet with viewable screen and keyboard.[3]

Sharyland ISD states that "[t]here are certain off-site activities that are integral, immediate, and proximate to the education of students"[4] while Pharr-San Juan-Alamo ISD reports that "[e]ighty-four percent of the nation's K-12 teachers report the digital divide is growing in their classrooms due to unequal access to essential learning

[3] State of Nebraska Office of the CIO and the Nebraska Department of Education Comments at 2 (emphasis supplied).

[4] Sharyland ISD Comments at 4.

technology resources at home."[5] The State Educational Technology Directors Association states:

> Gone is an era when students are automatically given textbooks to support their learning. Equity of access includes ensuring access to devices and sufficient high-speed broadband in school, at home, and everywhere else in the community to utilize digital instructional materials, complete homework assignments, and to connect with students, educators, and experts throughout the world anytime/anywhere.[6]

The Manhasset School District emphasizes that "[e]ducational resources . . . and online educational platforms . . . have fast become staples to which ALL students need access seven days a week . . . and much more than the seven hours they are physically in school."[7] EveryoneOn further describes the educational importance of broadband access at home:

> Home Internet connectivity is a vital resource necessary for students to accomplish 21st century learning objectives. At-home Internet connectivity is proven to foster better educational outcomes. Students are seven percent more likely to earn a high school diploma and seven percent more likely to graduate college when connected to the Internet at home.[8]

[5] Pharr-San Juan-Alamo ISD Comments at 3.
[6] State Educational Technology Directors Association Comments at 1 (quoting from *The Broadband Imperative II: Equitable Access for Learning* (Sept. 2016)).
[7] Director of Information Technology for the Manhasset School District, Nassau County, NY Comments at 1 (emphasis in original).
[8] EveryoneOn Comments at 4.

East Central BOCES explains the unfortunate reality that "[i]f a family cannot afford broadband services for their student's home, the student, through no fault of their own, is placed at a disadvantage as compared to their more affluent classmates."[9] Accordingly, "some teachers are hesitant to assign homework that requires access to the Internet. This hesitancy comes at the detriment to student education as Internet-based research has become a critical skill both generally and in higher education."[10]

The solutions offered by the petitions led the Detroit Public Schools to describe them as a "win-win for all parties."[11] Sprint similarly supports the petitions "[b]ecause these proposals to extend schools' E-rate supported networks to certain off-campus locations will help to address the homework gap, will simplify program administration, and will not add to the USF cost burden."[12]

The centrality of online learning and consequent reliance on out-of-school broadband access represents a fundamental evolution in education. As education evolves, so too must the tools made available by the E-rate program. Over the course of its history, the E-rate program has added and eliminated eligible services in

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[9] East Central BOCES Comments at 1.

[10] Common Sense Kids Action Comments at 9.

[11] Detroit Public Schools Comments at 2.

[12] Sprint Corporation Comments at 2; *See* Dynamic Spectrum Alliance Comments at 3 ("the Commission already permits schools to efficiently expand the reach of their wireline internet access services through the use of Wi-Fi technology. The use of TV White Spaces in these instances is the conceptual equivalent of expanded Wi-Fi coverage, extending the reach of the wireline internet connection that is delivered to the school through the E-rate program and made available only to students and only for educational purposes.").

accordance with evolving circumstances even as the governing statute remained the same. It is incumbent upon the Commission to allow innovation so that this important federal program can continue to provide technological support for students' education by adapting and meeting students where they are.

## II. Economic Factors Strongly Support Grant of the Petitions.

Adding another service or tool for eligibility instinctively and reflexively raises concerns about fiscal impact. However, grant of the petitions would not jeopardize the fiscal security of the E-rate fund because the projects would leverage the existing excess E-rate-funded broadband capacity and the E-rate program has built-in budgetary stability: the size of the E-rate fund is capped.[13] Therefore, increasing the available technology options for schools cannot, by itself, increase the size of the fund (or the amount that telecommunications consumers pay in fees). Even without such a cap, the petitions would eliminate the homework gap for thousands of students without imposing additional costs on the E-rate fund because they will use internet connectivity already purchased by the school, in conjunction with non-subsidized equipment. One does not strain financial resources by not spending more resources.

In fact, grant of the petitions will create a productivity benefit for the fund. The programs will increase efficiency because the services purchased with E-rate funds can

[13] *See Modernizing the E-rate Program for Schools and Libraries; Connect America Fund*, WC Docket Nos. 13-184 and 10-90, Second Report and Order and Order on Reconsideration, 29 FCC Rcd 15538 at ¶ 114 (2014) (*Second E-rate Modernization Order*) (capping the E-rate fund, with provision for annual inflationary changes).

be more intensively used for greater educational benefit at no additional cost.[14] In contrast, denying the petitions would require a school's already-paid-for internet access to remain unused or underused for most of the day as a condition of avoiding a reduction in E-rate funding. Such an outcome would be tantamount to requiring waste of an E-rate service, anathema to the Commission's program goals.[15]

Grant of the petitions will not encourage over-ordering or "stockpiling" of services. The capacity at issue in the petitions is already purchased by the schools with the goal of meeting peak needs during school hours. The programs envisioned by the petitions would serve fewer users (less than total student population and not including

[14] *See* Detroit Public Schools Comments at 1 ("[I]t is in the public interest to allow greater use of government-supported services and facilities during those times when schools are out of session, particularly because that enhanced access comes at no additional cost to the E-rate program."); *see also* Final Mile Communications Comments at 1-2 ("If the same intended security level can further increase and maximize an unchanged E-rate school network investment then the Commission further leverages the public investment with no risk."); Schools, Health & Libraries Broadband Coalition, the National Digital Inclusion Alliance, the Gigabit Libraries Network, Kellogg & Sovereign Consulting, LLC and Mobile Beacon Comments at 3 ("The National Broadband Plan found that sharing of broadband assets is economically efficient and allows lower costs for all users.") ("Comments of SHLB Coalition, *et al*."); Voice on the Net Coalition Comments at 3 (the pilot programs would "extract more benefit from E-rate subsidized connections that have already been paid for, without adding another dollar to the size of the fund."); Benton Foundation at 7 ("Programs such as those outlined in the two petitions before the Commission increase E-rate efficiency by advancing E-rate goals at no additional cost.").

[15] *See, e.g., Modernizing the E-rate Program for Schools and Libraries,* WC Docket No. 13-184, Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 8870 at ¶ 50 (2014) ("We adopt as our second goal maximizing the cost-effectiveness of spending for E-rate supported purchases, thereby minimizing the contribution burden on consumers and businesses and maximizing the benefit of each dollar spent on services for schools and libraries."); *see also* Common Sense Kids Action Comments at 7-8 ("Limiting access when access can be expanded at no additional cost is wasteful and contradicts the statutory purpose of expanding access and educational opportunity to low-income communities.").

administrative uses) than would be served during the school day by the same capacity. Accordingly, there would be no need to purchase additional capacity to extend connectivity to eligible students in their homes.[16]

## III. Grant of the Petitions Will Not Discourage Broadband Investment.

Some comments express concerns, implicitly and explicitly, that grant of the petitions would discourage broadband investment – both non-subsidized investments and investments subsidized through other universal service programs such as the Connect America Fund. These concerns exceed the scope of matters to be considered in evaluating the petitions, but they are nevertheless genuine concerns that Microsoft would like to address.

Microsoft's interest is simple: it wishes to see ubiquitous and affordable in-home internet access services for all students. That is not likely to come from a single source in the near-term. Unsubsidized investment, Lifeline, CAF, and E-rate all can and should work together to ensure that students, wherever they are and whatever their circumstances, can access the internet to serve their educational needs.

The current dilemma is plain: not all students are connected at home, and the reasons for this are varied. In some cases, there is a lack of available broadband facilities in a geographic area. In other cases, facilities may be present but the cost of internet

[16] Daytime usage at home by students who are out of school for health reasons would not necessitate an increase in a school's peak capacity needs because these students' daytime usage would already be accounted for in regular capacity planning.

access is unaffordable for some households where students reside. And in other cases, the decision maker(s) in a household does not prioritize broadband internet access vis-à-vis other necessary household expenses. In each of these circumstances, however, the student has no power to secure internet access for educational purposes. It has been suggested that the use of E-rate-supported services off school premises should be limited to those geographic regions where there is no other form of available internet access. However, imposing such a restriction would not solve for the variety of reasons for the absence of broadband service in a household. We should prioritize the educational interests of students. It would dis-serve those interests to limit students' options to one source for gaining internet access.

Microsoft is not interested in displacing internet service providers or discouraging private investment. To the contrary, Microsoft views ISPs, including rural ISPs, as playing a central role in this type of program and in achieving the broader goal of ensuring that students receive broadband connectivity at home for educational purposes. In the pilot described in the Virginia Petition, Mid-Atlantic Broadband Communities Corporation (MBC) and local wireless ISPs have partnered to leverage MBC's fiber optic network in the region to deliver broadband connectivity. Similarly, an existing local ISP in the respective regions provides the broadband connectivity for other TVWS pilots around the world. Microsoft would welcome discussions with other ISPs, large and small, urban and rural, to explore ways that those ISPs could expand the reach and accelerate the

build-out of their broadband services in their service territories through the use of TV White Spaces, Wi-Fi, and other low-cost wireless technologies.

In the specific context of the Virginia Petition, Microsoft does not perceive the connectivity provided to students to pose a threat to services offered by other ISPs in the region for a number of reasons. First, the Virginia pilot connectivity will not be available for use by all households in the region – only those with a specialized TV White Spaces access point. Second, even in those households, connectivity will not be available to the entire household; the signal can be accessed only via authentication of a device with unique credentials issued to participating students. Thus, the program targets a narrow sector of the population. Finally, the in-home internet access will replicate the limitations on access available in the schools, such as filtering, restricted use policies, and internet safety policies, including school monitoring of usage. Students' in-home connectivity for educational purposes will not substitute for generally available internet connectivity and, as VON noted, it has the potential to generate interest in obtaining broadband access for the entire household.[17]

## IV. There Are No Legal Barriers to Granting the Petitions.

As the Dynamic Spectrum Alliance states, "[t]he digital divide is perhaps most pernicious in the barriers it erects for students."[18] There is evidence that students without home broadband service are at a disadvantage vis-à-vis their connected

[17] *See* Voice on the Net Coalition Comments at 3-4.
[18] Dynamic Spectrum Alliance Comments at 1.

counterparts.[19] There is widespread agreement among all commenters, including those opposing the petitions, that the homework gap is a terrible problem that needs to be solved. Yet some commenters – and they are few – attempt to raise legal arguments against the petitions. It is disingenuous to pay lip service to reducing the homework gap while seeking to block solutions, like those proposed by the petitions, through specious legal arguments. Opponents generally raise two primary legal arguments: (1) each universal service program has a service need to fill, and other universal service programs cannot address that service need; and (2) the Communications Act prevents use of E-rate services off school premises. Neither argument is sound.

A. *Universal Service Programs Are Not Statutorily Prohibited From Overlapping*

A recurring argument found in those comments opposed to the petitions is that each universal service program is permitted to address only a single, unique universal service goal and must avoid solving for a problem addressed by another program. This view fails to accommodate the reality that many connectivity issues implicate the charter goals of more than one universal service program. In this instance, the record demonstrates that the lack of home broadband service profoundly affects a student's educational performance and providing technology to support educational opportunities is a fundamental goal of the E-rate program. Yet, that lack of broadband service may be the result of a lack of affordability (traditionally a Lifeline focus) or the

[19] *See, e.g.,* EveryoneOn Comments at 4; East Central BOCES at 1.

lack of available facilities (traditionally a CAF goal) or neither (a gap in the system). That more than one universal service program may have an opportunity to solve the connectivity problem should be considered an opportunity, not a barrier.

From a legal perspective, the different components of universal service funding are not discrete. Congress created different funds under the universal service umbrella to prevent gaps, not to create them. The statute does not require the rigid and ill-serving construction that where one program begins another must end, and no commenter has offered evidence to the contrary. In practice, the different universal service funds already overlap. Eligible persons can receive Lifeline support for services even if they live in CAF-supported areas, and even in buildings that include residential and health care facilities.

Even so, it bears emphasis that the services included in the Virginia Petition are more limited than – and are not substitutes for – the services provided through CAF or Lifeline. As previously noted, the services in the Virginia Petition will be available only to students via their school-provided credentials and not to entire households or neighborhoods. By contrast, CAF-subsidized or Lifeline-subsidized services are not limited to a particular person within the household. In addition, the services in the Virginia Petition will be restricted by the schools' policies, for example prohibiting access to certain websites that are not appropriate for children. CAF and Lifeline internet access services do not operate under such limitations. Accordingly, the targeted

offering of the services in the Virginia Petition cannot reasonably be viewed as substitutes for the services that would be available under other universal service programs.

B. *The Communications Act Allows Off-Premises Use of E-rate Services*

The Communications Act itself does not restrict off-premises use of E-rate services. The so-called geographic restriction is simply an FCC-created presumption, and one established not because of a parallel statutory requirement, but rather for purposes of administrative ease and to make it easier for schools in preparing their applications. Specifically, in the early years of the E-rate program, the Commission concluded that activities that are integral, immediate, and proximate to the education of students qualify as educational purposes.[20] It expanded on this interpretation to "establish a presumption that activities that occur in a . . . classroom or on . . . school property" satisfy the integral, immediate, and proximate standard. The presumption was designed to "guide applicants in preparing their applications and to streamline the Administrator's review of applications."[21] Notably the Commission did not conclude that the presumption about on-premises use was statutorily necessary.

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[20] *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, Second Report and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 9202, ¶ 17 (2003) ("We find that, in the case of schools, activities that are integral, immediate, and proximate to the education of students . . . qualify as educational purposes under this program.").

[21] *Id.*

At the same time, the Commission expressly provided for off-premises use of E-rate supported services when that off-premises use would be integral, immediate, and proximate to the education of students and it has allowed such off-premises use ever since.[22] The Commission provided some examples of appropriate off-premises uses such as a school bus driver's use of wireless telecommunications service while delivering children to and from school, and a teacher's use of wireless telecommunications service while accompanying students on a field trip or sporting event.[23] Had the statute imposed an absolute ban on use of E-rate services off of school premises, the Commission would have lacked authority to permit such off-premises uses, even in limited circumstances.[24]

Rather than being a statutory bar, the presumption has operated as a shorthand way of establishing that a service is integral, immediate, and proximate to a student's education. What is considered to be integral, immediate and proximate to a student's

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[22] *Id.* at ¶ 19 ("[W]e conclude that in certain limited instances, the use of telecommunications services offsite would also be integral, immediate, and proximate to the education of students . . . and thus, would be considered to be an educational purpose.").

[23] *Id.* at n.28. The Commission did not suggest that its list of examples was exhaustive.

[24] A few commenters claim that the reference to schools in the language of section 254 operates as a statutory prohibition against use of E-rate services off school premises. *See* 47 U.S.C. § 254(h)(1)(B) ("All telecommunications carriers serving a geographic area shall, upon a bona fide request for any of its services that are within the definition of universal service under subsection (c)(3), provide such services to elementary schools, secondary schools, and libraries for educational purposes at rates less than the amounts charged for similar services to other parties."). At most, the word "schools" refers to the type of entity to which a carrier must provide an E-rate discount. It does not describe use. To the extent there is any use-related restriction in that provision, it is found in the term "for educational purposes." As explained above, that term has not been interpreted to restrict the location where E-rate services may be consumed.

education, however, has changed dramatically since the presumption was established nearly 13 years ago when the use of educational use of technology at home was more of a "nice to have" (if it was used at all by a K-12 student) and not the "need to have" that it is today. The Communications Act explicitly acknowledges that universal service relates to an evolving level of services and instructs the Commission, in defining supported services, to consider the extent to which those services are essential to education.[25] Given the changed circumstances – specifically, the more intensive reliance on internet access for educational purposes outside the school – the Commission should confirm the original determination that on-premises use of an E-rate service does not (and never did) represent the full universe of services that are integral, immediate, and proximate to the education of students. It also should clarify that the internet access services provided by the programs described in the petitions are, in fact, integral, immediate, and proximate to the education of students given the critical importance of at-home online learning in modern educational systems.[26] Doing so would represent no change in the Commission's original approach.

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[25] 47 U.S.C. § 254(c)(1)(A).

[26] Given that the in-home connectivity provided to students is integral, immediate, and proximate to the education of those students, no cost allocation for those off-premises uses should be required. We acknowledge the recommendation by some commenters that the Commission could conclude that students' in-home use of E-rate connectivity is permitted as ancillary to eligible services and thus exempt from cost allocation requirements. *See* 47 C.F.R. 54.504(e)(2); *see also* Comments of SHLB Coalition, *et al.* at 8-10. While we agree that an ancillary use rationale could be adopted, we believe that in-home use of a school's E-rate connectivity is integral, immediate, and proximate to a student's education because a student is expected to obtain and use out-of-school connectivity to complete her studies. Accordingly, in-

Some have suggested that a new rulemaking or full Commission action is necessary to grant the petitions. Although we refer to the "Commission" throughout these reply comments, that reference is not intended to imply that full Commission action (or a rulemaking) is needed to resolve the Virginia petition, which merely seeks clarification of existing rules or, in the alternative, a waiver. It is fully within the delegated authority of the Bureau to grant the petition at an appropriate time. Doing so would be consistent with the Bureau's traditional exercise of the Commission's delegation of authority to, among other things, clarify existing Commission rules or determine eligibility of services for E-rate support.

## V. Conclusion

Microsoft and its fellow petitioners have described a highly targeted and beneficial use case for allowing students to continue using their school's E-rate supported internet access service for educational purposes when they are at home. We hope the Commission will grant our petition. It offers a way to increase the purchasing power of E-rate funds in a way that directly benefits the education of students. The record demonstrates that this small addition to a student's educational tool kit can have a profound effect on their lives.

While some comments offer strained arguments to block these solutions, the Commission should reject their cramped vision of America's potential that, if adopted,

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home use of a school's E-rate connectivity, as described in the petitions, should not be considered an "ineligible" component of a larger service.

would leave some students without the ability to complete their homework while forcing others to sit in dark or cold parking lots to complete the most basic of homework assignments. The Commission should reject the vision that pays lip service to closing the homework gap yet acquiesces to limited educational opportunities for those rural and socio-economically disadvantaged children who don't have internet service at home. Instead, we urge the Commission to harness the technological and administrative innovation that will empower those students with the tools to become their most productive and creative selves.

Therefore, for the reasons stated herein, Microsoft strongly encourages the Commission to grant the relief sought by the Virginia Petition and the Boulder Valley Petition.

Respectfully submitted,

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